

Sensory Perceptions of Nicotine Replacement Therapy Between Menthol and Nonmenthol Cigarette Smokers



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Introduction/Background

- Menthol is present in 90% of all tobacco products
- There are over 10 million menthol smokers in the United States
- Highest demographic population of menthol smokers is represented by non-Hispanic Black smokers and young adult smokers.
- Smoking cessation pharmacotherapy yields a 2 to 3 fold improvement in quitting success
- Research suggests that smoking menthol cigarettes negatively impacts smoking cessation among adults

Purpose

To evaluate the relationship between menthol cigarette sensory response and cessation rates through usage of nicotine replacement therapy (NRT) versus non-menthol cigarette users.

Aims

- 1 Were menthol cigarette users more likely to quit than nonmenthol cigarette users during nicotine replacement therapy treatment in a two week study?
- 2 What is the relationship between cigarette smoking and NRT usage regarding sensory perceptions in the categories of liking, satisfaction and sensation strength?
- 3 Is there a difference in sensory perceptions of liking, satisfaction and sensation strength between menthol and nonmenthol cigarette smokers?

Sample Characteristics (N=120)

Age (yrs)	32.1 ± 10.3
Female	47.5%
Male	52.5%
White	65.8%
African American	27.5%
Cigarettes/day	15.4 ± 5.7
Menthol	40.3%
Education ≤ H.S.	36.7%
Income ≤ \$15,000	48.3%
NRT use/day	4-5

Design

Week 1	Week 2	
Inhaler	Lozenge	n=55
Lozenge	Inhaler	n=65

Randomized to order of treatment
Protocol conducted in CCTS Clinical Research Center
Retention-\$100 at end of week 1 and 2 Parking

Measurements

- NRT Sensory Response: 7 point scale on three dimensions of liking, satisfaction and strength in five areas (mouth, nose, throat, chest, windpipe). Reported daily by participants on Teleform® log.
- NRT Adherence: Number of lozenges or inhaler cartridges per day. Daily log based on the week/respective week
- Fagerström Test for Nicotine Dependence: 6 item instrument with potential score range of 0 to 10.

Analysis

Secondary data analysis of the study *Bitter Taste Phenotype and Oral NRT Adherence*, cross over design with randomized order of NRT treatment type conducted by Dr. Karen Ahijevych

Results

Aim 1

Week 1	Nonmenthol	Menthol
Quit Smoking	60.9%	39.1%
Continued Smoking	59.7%	40.3%
Week 2	Nonmenthol	Menthol
Quit Smoking	53.8%	46.2%
Continued Smoking	64.5%	35.9%

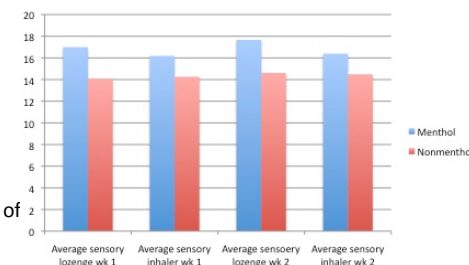
There was more menthol smokers who after week one continued to smoke even with use of NRT than nonmenthol smokers

Aim 2

- Baseline smoking per day was significant to liking of average lozenge (Increased cpd, the higher the liking score of using lozenge as NRT)
- Average lozenge per day was significant to liking lozenge (Increase in lozenges usage correlated with increased liking of lozenge)
- Satisfaction of average inhaler was significant to average sensory and liking of average inhaler (Satisfaction with the NRT inhaler positively relates to its sensory properties)
- Liking of average inhaler was significant to liking of average lozenge (Increased liking of the inhaler shows an increased liking of the lozenge as a form of NRT)
- Satisfaction of average lozenge was significant to liking average lozenge (Satisfaction with the lozenge relates to liking the lozenge as NRT)
- Satisfaction to average lozenge was significant to satisfaction of average inhaler (If you are satisfied with the lozenge you will be satisfied with the inhaler)



Aim 3



- Menthol smokers had a significantly increased sensory response to the NRT lozenge
- Nonmenthol smokers do not respond as much to the sensory aspect of the lozenge (note the chart data is taken from the mean of the average sensory loz and inhaler)

Discussions/Implications

- Menthol smokers were less likely to quit when compared to non-menthol smokers
- Heavier smokers perceived a stronger liking of NRT lozenge
- Menthol smokers had a stronger sensory response which may indicate a unique treatment plan or need
- Under-dosing seen of NRT at 4-5/ day
- Use of NRT lozenge and inhaler is a useful method to promote smoking cessation in menthol smokers, but usage should approach recommended 9 lozenges/inhalers per day to influence cessation long term.
- Individualizing tobacco dependence treatment continues to be a priority.

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